

AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1. (Previously Presented) A replaceable module for a printing apparatus with programmable software controls, the module comprising:
 - an internal memory comprising a non-volatile core portion and a volatile portion for holding stored instructions;
 - a peripheral memory external to said module, comprising increased storage space for holding a software upgrade for the printing apparatus programmable software controls;
 - a communications interface for exchanging information with the printing apparatus; and,
 - a microprocessor connected to the internal memory, the peripheral memory and the communications interface, the microprocessor performing the stored instructions to compare currently installed software and current machine status with available software upgrades, independent of whether said module has been replaced, to determine if the software upgrade is appropriate for installation and if an upgrade is appropriate, then automatically install the software upgrade into the printing apparatus via the communications interface when the replaceable module is installed in the printing apparatus by causing said printing apparatus to idle, upgrading software by extracting necessary components from a web based source or from an internal memory source, monitor progress of the upgrade, report any faults, contact service personnel if the upgrades is not successfully completed, and return the printing apparatus to normal operation when the software upgrade is complete so that the software upgrade for the printing apparatus is inhibited from being repeated.
2. (Original) The replaceable module of claim 1, wherein the communications interface comprises a wired communication element.
3. (Original) The replaceable module of claim 1, wherein the communications interface comprises a wireless communication element

4. (Original) The replaceable module of claim 1, further comprising a peripheral memory interface, where the microprocessor is connected to the peripheral memory through the peripheral memory interface.

5. (Previously Presented) The replaceable module of claim 4, where the peripheral memory comprises flash memory.

6. (Original) The replaceable module of claim 5, where the peripheral memory comprises flashcards.

7. (Original) The replaceable module of claim 4, where the peripheral memory comprises nonvolatile integrated circuit chip memory.

8. (Original) The replaceable module of claim 4, where the peripheral memory comprises bubble memory.

9. (Previously Presented) In a printing apparatus, a method of operating a replaceable module, the method comprising:

installing the replaceable module in the printing apparatus;

allowing a processor element on board the replaceable module to interrogate the printing apparatus, wherein the interrogating includes identifying previously installed replaceable modules;

determining which software components in the printing apparatus need to be upgraded, independent of whether the module has been replaced, by comparing software currently installed in the printing apparatus with available software upgrades;

accessing external memory to retrieve and load any necessary software code components for an upgrade;

automatically installing the software code into the printing apparatus by the processor element in the replaceable module so that a field engineer or other individual need not perform the software upgrade for the printing apparatus;

monitoring the progress of the software upgrade;

reporting any fault occurring during the upgrade;

placing a service call if the upgrade is unsuccessful; and

returning the printing apparatus to normal operating mode when the software upgrade is complete.

10. (Original) The method of claim 9 wherein the processor element is a microprocessor.

11. (Cancelled)

12. (Cancelled)

13. (Previously Presented) The method of claim 9 wherein the memory is accessed via a network connection.

14. (Previously Presented) The method of claim 13 wherein the network connection is comprised of the Internet.

15. (Original) The method of claim 13 wherein the network connection access is accomplished by a wireless communication element.

16. (Previously Presented) In a printing apparatus, a method of operating a replaceable module having a processor element on board the replaceable module, the method comprising:

installing the replaceable module in the printing apparatus;

placing the printing apparatus into diagnostic mode;

allowing a processor element on board the replaceable module to interrogate the printing apparatus;

interrogating said printing apparatus by comparing currently installed software and current machine status with available software upgrades, independent of whether the replaceable module has been replaced;

determining from the interrogation which software components in the printing apparatus need to be upgraded;

automatically scheduling as determined by the processor element when a software upgrade should occur;

accessing external memory as directed by the processor element in order to retrieve and load necessary software code components to perform an upgrade;

installing the software code into the printing apparatus by the processor element in the replaceable module;

monitoring the progress of the software upgrade;

reporting any fault occurring during the upgrade;

placing a service call if the upgrade is unsuccessful; and

returning the printing apparatus to normal operating mode when the software upgrade is complete.

17. (Original) The method of claim 16 wherein the processor element is a microprocessor.

18. (Cancelled)

19. (Cancelled)

20. (Previously Presented) The method of claim 16 wherein the memory is accessed via a network connection.

21. (Previously Presented) The method of claim 16 wherein the memory is comprised of flashcards.

22. (Original) The method of claim 20 wherein the network connection access is accomplished by a wireless communication element.

23. (Original) The method of claim 16 wherein the interrogation further comprises gathering machine and software version indicia, model number, serial number, and other identifying information, as would be desirable for completing an inventory of machines in the field.

24. (Original) The method of claim 23 wherein the identifying information is passed via the network connection.

25. (Original) The method of claim 23 wherein the identifying information is

stored in memory on the replaceable module.